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EXAMINER	
LIU, SUE XU	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,998	DAEHNE ET AL.	
	Examiner	Art Unit	
	SUE LIU	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/23/09*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-67* is/are pending in the application.

4a) Of the above claim(s) *58* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51-57 and 59-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Status

1. Claims 1-50 have been cancelled as filed on 7/23/09.

2. Claims 51-67 have been newly added as filed on 7/23/09.

Claims 51-67 are currently pending.

Claim 58 has been withdrawn.

Claims 51-57 and 59-67 are being examined in this application.

Election/Restrictions

3. Applicant's election with traverse of Group 1 (claims 26-48) in the reply filed on 1/12/09 is as previously acknowledged. The newly added claims 51-67 correspond to the elected Group 1 invention.

4. Applicant's election with traverse of the following species:

A.) one layer;

B.) two;

C.) fluorescent dye;

D.) without additional layers;

E.) with a solid core;

in the reply filed on 1/12/09 is acknowledged. Accordingly, Claim 58 is withdrawn due to non-elected species.

Priority

5. This application is filed under 35 U.S.C 371 of PCT/EP03/08376 (filed on 07/29/2003).

6. Receipt is acknowledged of papers (Germany 10236409.5; Germany 10315846.4) submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

7. Applicant's filing of a new Abstract as well as amendment to the Specification to include a section for Brief Description of Drawings (filed on 7/23/09) is acknowledged.

Claim Objection(s) / Rejection(s) Withdrawn

8. In light of applicants' cancellation of all previous pending claims, all previous outstanding claim rejection(s) as set forth in the previous office action is(are) withdrawn.

New Claim Objection(s) / Rejection(s)

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

New Matter Rejection

10. Claims 51-57 and 59-67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 51-57 and 59-67 have been newly added as filed on 7/23/09. However, the instant specification does not appear to provide support for the claimed capsule as recited in the instant claims. In particular, the instant specification and claims as originally filed do not appear to disclose a capsule having "only one dye" (i.e. a single dye). In addition, claim 59 claims a modified core with "coordinating properties", which also does appear to have support in the instant disclosure.

If Applicant believes this rejection is in error, applicant must disclose where in the specification support for the entire scope of the amendment(s) and/or new claims can be found. As a result, Claims 51-57 and 59-67 represent new matter.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Dai

12. Claims 51-53, 55-57 and 59-67 are rejected under **35 U.S.C. 102(b)** as being anticipated by **Dai** et al (Adv. Mater. Vol.13(17): 1339-1342; 2001; cited in IDS). This rejection is necessitated by applicant's amendments to the claims.

The instant claims recite "A capsule, comprising:

a diameter of less than 100 μm, and

an envelope comprising at least three polyelectrolyte layers and containing only one dye with at least one of the at least three polyelectrolyte layers being labeled with the only dye, and the only dye is covalently linked to a sensitive material with *the sensitive material adapted to react to changed environmental conditions by an increase in volume or a decrease in volume, wherein the dye has a sufficient concentration for the dye to form dimers, aggregates or excimers, and wherein the dimers, aggregates or excimers self-quench fluorescence or form a new emission band.*"

The italic regions of the instant claim 51 as indicated above is reciting the inherent property and/or intended uses of the claimed product.

Dai et al, throughout the publication, teach a capsule having multiple outer layers (e.g. Abstract)

For **claim 51**: The reference teaches capsules of multiple layers (or envelopes) (e.g. Scheme 1; p.1340 Figure 3; p.1341), which the capsule has a diameter less than 100 μm (e.g. p.1341; Figure 2). The reference also teaches the capsules are composed of multiple polyelectrolytes such as 3, 4, 6, 8, etc. layers (e.g. Title; p.1340) and dyes incorporated on the

layers (e.g. p.1341, last para). The Dai reference also teaches the layers are polyelectrolytes (e.g. p.1340, left col.). The reference teaches capsules comprising at least three layers (e.g. p.1340).

The reference teaches incorporating one dye labeled (such as fluorescein or rhodamine B) PAH layer in the envelope (e.g. p.1342, right col. 2nd para; p.1340), which the PAH labeled fluorescein, for example, read on "dye is covalently linked to a sensitive material".

The instant specification does not specifically defines the term "sensitive material" to have any particular structure (such as a chemical formula), which the term can be broadly and reasonably interpreted to encompass part of the dye molecular, or the electrolyte layer (such as PAH). This interpretation seems to match the instant disclosure where the sensitive material appear to be corresponding to one of the polyelectrolyte layer (e.g. p.4, 5, etc.).

Thus, the structure of the layers appear to the same as the instant claimed polyelectrolyte layers and thus would be capable of performing the intended uses or having the inherent property of change in volume without evidence to the contrary. The office does not have the facilities and resources to provide the factual evidence needed in order to determine and/or compare the specific activities of the instant application versus the reference. In the absence of the evidence to the contrary, the burden is upon the applicant to prove that the claimed composition is different from the one taught by prior art and to establish the patentable differences. See in re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ2d 1992(PTO Bd. Pat. App. & Int. 1989).

In addition, the reference also teaches the dyes are "aggregated" and allowed a "red shift" in the spectra (e.g. p.1341, left col., 2nd para), which reads on the intended use recitation of forming aggregates.

For **claims 52** and **53**: The reference teaches the capsule comprising various types of polyelectrolyte layers (including PAH), which at least the PAH material appear to be disclosed in the instant specification to be of "sensitive material" (see Spec., p.14, lines 1+). Thus, the layers of the reference inherently possess the property of swells/shrinks as evidenced by the instant specification.

The recitation of "the environmental conditions change" in claims 52 and 53 are recitation of intended uses, which is not afforded patentable weight because the intended use language does not result in a structural difference.

For **claim 55**: The reference teaches the layers have thickness of 1.5 to 1.7 nm per single layer. (e.g. p.1342).

For **claim 56**: The reference teaches various organic polyelectrolyte layers. (e.g. p.1340).

For **claim 57**: The reference teaches various fluorescent dyes (e.g. p.1340).

For **claims 59** and **61**: The reference teaches the capsule contains a solid core throughout the assembly process (e.g. p.1340, left col.), and thus the product formed before removing the core read on the capsule possessing a solid core. The MF particles also reads on a "modified core" that possess coordinating properties because the MF can be considered to "coordinate" formation of the enveloped capsule.

For **claim 60**: The polyelectrolyte layers of the reference have the inherent property of being permeable as evidenced by the instant specification (Spec., p.14).

For **clim 62**: The reference teaches the multilayered particles have diameters such as 3.73 μm (e.g. p.1341; Figure 3).

For **claim 63**: The reference teaches the product-by-process limitation of layer by layer production (e.g. p.1339; Scheme 1).

For **claims 64-66**: The recitation of "the capsule is used for labeling…" is a recitation of intended uses. The structure of the capsule appears to the same as the instant claimed capsule and thus would be capable of performing the intended uses without evidence to the contrary. The office does not have the facilities and resources to provide the factual evidence needed in order to determine and/or compare the specific activities of the instant application versus the reference. In the absence of the evidence to the contrary, the burden is upon the applicant to prove that the claimed composition is different from the one taught by prior art and to establish the patentable differences. See in re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ2d 1992(PTO Bd. Pat. App. & Int. 1989).

For **claim 67**: The reference teaches the thickness of each layer can be 1.5±0.2nm. A capsule with 8 layers, for example, would have 12nm thickness, which in turn can translate into a diameter of less than 1 μm.

Discussion and Answer to Argument

13. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants argue the Dai reference does not teach the dye is covalently linked to a sensitive material… (Reply, pp.10+).

Applicants are respectfully directed to the above modified rejection for detailed discussion of all claimed elements and the reference's teachings.

As discussed above the term "sensitive material" is not specifically defined to have any particular structure. It can be broadly interpreted to encompass the PAH layers. The Dai reference teaches dye labeled PAH layer, which the dye is covalently linked to the PAH as evidenced by Kaschak et al (citation omitted).

The instant specification does not specifically defines the term "sensitive material" to have any particular structure (such as a chemical formula), which the term can be broadly and reasonably interpreted to encompass part of the dye molecular, or the electrolyte layer (such as PAH). This interpretation seems to match the instant disclosure where the sensitive material appear to be corresponding to one of the polyelectrolyte layer (e.g. p.4, 5, etc.).

Applicants also assert the Dai reference does not teach "high dye concentration resulting in self-quenching..." (Reply, p.10).

However, applicants have made the above assertion without any supporting evidence. "The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant." (MPEP 716.01(c) II)

Further, the instant claim is not only drawn to capsule that have fluorescent quenching. The instant claim is also drawn to fluorescent emission.

Dai II

14. Claims 51-57 and 59-66 are rejected under **35 U.S.C. 102(b)** as being anticipated by **Dai** et al (Macromol. Rapid Commun. Vol.22 (11): 756-762; 2001; cited previously). This rejection is necessitated by applicant's amendments to the claims.

Dai et al, throughout the publication, teach a capsule having multiple outer layers (see Entire Doc.)

For **claim 51**: The reference teaches capsules of multiple layers (or envelopes) (e.g. p.757), which the capsule has a diameter less than 100 μm (e.g. Figure 1). The reference also teaches the capsules are composed of polyelectrolytes (e.g. p.757) and dye labeled layers (e.g. p.757; right col.). The reference teaches capsules comprising at least three layers (e.g. Table 1; Figure 1). The reference teaches forming alternating layers of dyed and non-dyed layers (such as $(PAH\text{-}RhB/PSS)_4$, i.e. 4 alternating PAH-RhB/PSS layers (e.g. p.760; Figure 1).

The reference teaches incorporating one dye labeled (such as fluorescein or rhodamine B) PAH layer in the envelope (e.g. p.757, right col., para 5), which the PAH labeled fluorescein, for example, read on "dye is covalently linked to a sensitive material", as evidenced by **Kaschak** et al (cited in Dai II for fluorescent dye labeling of polyelectrolyte; J. Am. Chem. Soc., Vol. 118: 4222-4223; 1996; cited previously).

The instant specification does not specifically defines the term "sensitive material" to have any particular structure (such as a chemical formula), which the term can be broadly and

reasonably interpreted to encompass part of the dye molecular, or the electrolyte layer (such as PAH). This interpretation seems to match the instant disclosure where the sensitive material appear to be corresponding to one of the polyelectrolyte layer (e.g. p.4, 5, etc.). In addition, **Dahne** et al. (J. Am. Chem. Soc. Vol.123; 5431-5436; 2001; cited previously), teach "it is known that hollow PAH/PSS capsules shrink at higher temperatures" or swell under other conditions (e.g. Dahne, p.5433). Further, the reference teaches swelling of the capsule under certain conditions (e.g. p.761; right col.).

The reference dye labeled layer of the reference also inherently possess the property of capable of forming "dimers, aggregates, or excimers…" because the dye label allow fluorescent detection (e.g. Table 1) and the Kaschak reference teach the dye concentration is high (1:20 with PAH layer).

Thus, the structure of the layers appear to the same as the instant claimed polyelectrolyte layers and thus would be capable of performing the intended uses or having the inherent property of change in volume without evidence to the contrary. The office does not have the facilities and resources to provide the factual evidence needed in order to determine and/or compare the specific activities of the instant application versus the reference. In the absence of the evidence to the contrary, the burden is upon the applicant to prove that the claimed composition is different from the one taught by prior art and to establish the patentable differences. See in re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ2d 1992(PTO Bd. Pat. App. & Int. 1989).

For **claims 52** and **53**: The reference teaches the capsule comprising various types of polyelectrolyte layers (including PAH), which at least the PAH material appear to be disclosed in

the instant specification to be of "sensitive material" (see Spec., p.14, lines 1+). Thus, the layers of the reference inherently possess the property of swells/shrinks as evidenced by the instant specification.

The recitation of "the environmental conditions change" in claims 52 and 53 are recitation of intended uses, which is not afforded patentable weight because the intended use language does not result in a structural difference.

For **claim 54**: The reference the fluorescent dye is covalently linked to the polyelectrolyte layer (e.g. p.757) as evidenced by **Kaschak** et al (as discussed supra). The Kaschak reference teaches dye to PAH ratio of 1:20 to 1:50 (Kaschak, p.4222, right col., para 2), which reads on the ratio of claim 54.

For **claim 55**: The reference teaches the layers have thickness of approximately 3 nm per single layer (e.g. p.761; Figure 2; left col., para 2).

For **claim 56**: The reference teaches various organic polyelectrolyte layers. (e.g. p.757).

For **claim 57**: The reference teaches various fluorescent dyes (e.g. p.757; Table 1).

For **claims 59** and **61**: The reference teaches the capsule contains a solid core (such as the dye crystal core) throughout the assembly process (e.g. p.757), and thus the product formed before removing the core read on the capsule possessing a solid core. The dye crystal core particles read on a "modified core" that possesses sensory or coordinating properties.

For **claim 60**: The polyelectrolyte layers of the reference have the inherent property of being permeable as evidenced by the instant specification (Spec., p.14). In addition, the reference also teaches the permeability of the capsules (e.g. pp.760-761).

For **claim 62**: The reference teaches the multilayered particles have diameters such as 10 μm (e.g. p.760; Figure 1).

For **claim 63**: The reference teaches the product-by-process limitation of layer by layer production (e.g. p.757).

For **claims 64-66**: The recitation of "the capsule is used for labeling…" is a recitation of intended uses. The structure of the capsule appears to the same as the instant claimed capsule and thus would be capable of performing the intended uses without evidence to the contrary. The office does not have the facilities and resources to provide the factual evidence needed in order to determine and/or compare the specific activities of the instant application versus the reference. In the absence of the evidence to the contrary, the burden is upon the applicant to prove that the claimed composition is different from the one taught by prior art and to establish the patentable differences. See in re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ2d 1992(PTO Bd. Pat. App. & Int. 1989).

Discussion and Answer to Argument

15. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants also assert the Dai reference does not teach "high dye concentration resulting in self-quenching…" (Reply, p.12).

However, the instant claim is not only drawn to capsule that have fluorescent quenching. The instant claim is also drawn to fluorescent emission.

Applicants also argue the Dai II reference does not teach "sensitive materials". (Reply, pp.12+).

Applicants seem to argue because the changes in volume of the Dai II reference is due to "osmotic pressue", the reference does not teach all element. However, the instant claim does not exclude "osmotic pressure" from environmental conditions. In addition, the instant specification or claim also does not specifically define "sensitive materials" to be of any particular structure. The only description provided is that the materials will change in volume when the environment conditions changes. As pointed out by applicants, the reference clearly teaches the capsule (or the layers of the capsule) shrink or swell (or changes) when there is osmotic pressure (i.e. a environmental condition). It is not clear how this change of the Dai II capsule (or layer) is excluded by the present claim.

In addition, applicants repeatedly asserting the capsule of the reference does not contain the claimed "sensitive material" (Reply, p.13). However, applicants have not provided any concrete description and/or structure for the "sensitive material" that would distinguish the materials from the cited references. Neither the instant specification nor the claims provides a specific description besides a vague functional description. Applicants assert the shrinking/swelling PAH/PSS capsules (layers) of the cited references are not the "sensitive material". This even more confuses the situation. As discussed above, the closest description of a sensitive material from the instant specification seems to be related to the PAH layers (or other polyelectrolyte) of the capsule that can shrink or swell (e.g. p.4, lines 29+, p. 5, etc.). It appears the PAH or other polyelectrolyte layers are the same as the layers as the instant disclosure. Thus, it is not clear how one is considered as "a sensitive material" and the other would not.

Applicants also argue the reference teaches "semi permeable" layers, and thus does not read on the instant claims (e.g. pp.13-14).

However, applicants have not provided any factual evidence to support the assertion. The citation of "intertwined PSS" is from the Dahne reference, which is relied upon as evidence for supporting the inherent property of the polyelectrolyte layers. Further, the applicants have not provided evidence to show "intertwined PSS" would be equivalent to "semi permeable."

Most importantly, the instant claims do not exclude capsules with layers that are semi permeable.

Applicants also argue the Kaschak reference teaches attaching two types of dyes. (Reply, p.14).

The Kaschak reference is cited to show the inherent property of PAH layer having covalently attached dye in the Dai II reference. The Dai II reference states PAH-FITC or PAH-RhB is used, which clearly indicates only one dye is labeled per PAH layer. For example, in Figure 1 of the Dai II reference, clearly, a capsule with a single type of covalently linked dye (RhB) is attached to the PAH layer.

Applicants also seem to argue the Kaschak reference teaches away. However, the above rejection is under 35 USC 102(b). Arguments regarding "teaching away" is not applicable.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Dai II and Others

18. Claims 51-57 and 59-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dai** et al (Macromol. Rapid Commun. Vol.22 (11): 756-762; 2001; referred to as Dai II; cited previously), in view of **Dai** et al (Adv. Mater. Vol.13(17): 1339-1342; 2001; cited in IDS) and **Dahne** et al. (J. Am. Chem. Soc. Vol.123; 5431-5436; 2001; cited previously). This rejection is necessitated by applicant's amendments to the claims.

Dai II throughout the publication, teach a capsule having multiple outer layers, as discussed above. The rejection under Dai II above is hereby incorporated by reference in its entirety.

Dai II do not explicitly teach the average diameter of less than 1 μm as recited in claim **67**.

However, **Dai**, throughout the publication, teaches generating multiple polyelectrolyte layers (in a polyelectrolyte capsule) labeled with fluorescent dyes (e.g. Abstract). The reference teaches the thickness of each layer can be 1.5±0.2nm. A capsule with 8 layers, for example, would have 12nm thickness, which in turn can translate into a diameter of less than 1 μm.

In addition, **Dahne** et al., throughout the reference, teach fabricating various polyelectrolyte capsules (e.g. Abstract). The reference teaches these multi-layered capsules can have sizes ranging from 60nm to 10 μm (e.g. p.5431, para 1) and the capsule can be of "submicrometer" in size (diameter) (e.g. Abstract). The reference also teaches the advantages of such capsules (having the various diameters) so that they "offer broad perspectives in nanoscale encapsulation of drugs, minerals, dyes, and proteins" as well as other useful applications (e.g. p.5431, para 1).

Therefore, it would have been prima facie obvious for one of ordinary skill in the art at the time the invention was made to generate multi-layered polyelectrolyte capsules having size/diameter of less than 1 μm.

A person of ordinary skill in the art would have been motivated at the time of the invention to generate multi-layered polyelectrolyte capsules having size/diameter of less than 1 μm, because Dahne teaches the advantages of such capsules (having the various diameters) so that they "offer broad perspectives in nanoscale encapsulation of drugs, minerals, dyes, and proteins" as well as other useful applications. In addition, because the cited references (Dai II, Dai and Dahne) teach making nanocapsules with multiple layers labeled with fluorescent dyes having various sizes/diameters, it would have been obvious to one skilled in the art to substitute one size for the other to achieve the predictable result of generating nanocapsule with the desired properties.

A person of ordinary skill in the art would have reasonable expectation of success of achieving such modifications since all the cited references have demonstrated the success in generating various microcapsules comprising various layers labeled with fluorescent dyes.

Double Patenting

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

'989

20. Claims 51-57 and 59-67 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9-12 of copending Application No. 11/717,989 (PGPUB 20070224345; referred to as '989 application). This rejection is necessitated by applicant's amendments to the claims.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention of the '989 application reads on the instant claimed invention.

The '989 application claims a capsule having multiple layers with pigments (e.g. claim 9). The '989 application also claims diameters of below 200 nm and layer thickness of 5 nm.

Although the application does not explicitly recite at least three layers, it would have been prima facie obvious to add additional layers.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Discussion and Answer to Argument

21. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants requested the ODP rejection be held in abeyance. Applicants have not provided any specific traversal over the above ODP rejection. Thus, the above rejection is maintained for the reasons of record.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Liu whose telephone number is 571-272-5539. The examiner can normally be reached on M-F 9am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached at 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sue Liu/
Primary Examiner, AU 1639
11/6/09